WHAT WE CLAIM:

1. A **treatment species for administration to a mammalian recipient** comprising or including one or more of:

a) a cell population capable of producing one or more factors, or

b) a cell culture capable of producing one or more factors or

c) conditioned media from a cell culture containing one or more factors.

2. A **treatment species for administration to a mammalian recipient** as claimed in claim 1 wherein the treatment species is capable of releasing or administering to the recipient, a secretion derived from the cells, more preferably the secretion includes cell derived factors.

3. A **treatment species for administration to a mammalian recipient** as claimed in claim 1 wherein the factors are neurotrophins, growth factors, matrix cell support factors, proteases capable of degrading toxic protein precipitates (such as amyloid and huntingtin), and proteins capable of complexing toxic metal ions (such transferrin and ceruloplasmin) .

4. A **treatment species for administration to a mammalian recipient** as claimed in claim 1 wherein the cells are derived from the embryonic neural crest.

5. A **treatment species for administration to a mammalian recipient** as claimed in claim 1 wherein the cells are selected from one or more choroid plexus cells or one or more glial or glial-derived cells or epithelial cells.

6. A **treatment species for administration to a mammalian recipient** as claimed in claim 5 wherein the cells have been subject to genetic modification.

7. A **treatment species for administration to a mammalian recipient** as claimed in claim 1 wherein the cells are choroid plexus cells and the treatment species is capable of releasing or administering to the recipient, a choroid plexus derived secretion.

8. A **treatment species for administration to a mammalian recipient** as claimed in claim 7 wherein the choroid plexus derived secretion includes choroid plexus derived factors.

9. A **treatment species for administration to a mammalian recipient** as claimed in claim 1 wherein the cells are living cells.

10. A **treatment species for administration to a mammalian recipient** as claimed in claim 1 wherein the treatment species is derived from one or more choroid plexus cells obtained or derived from a donor mammalian species.

11. A **treatment species for administration to a mammalian recipient** as claimed in claim 10 wherein the treatment species is derived from a cell culture.

12. A **treatment species for administration to a mammalian recipient** as claimed in claim 11 wherein the cell culture is a primary culture and/or a secondary culture and/or comprises cell lines derived from choroid plexus cells including immortalized cell lines.

13. A **treatment species for administration to a mammalian recipient** as claimed in claim 1 wherein the cell population or cell culture is from a donor mammalian species which is a different species to the recipient.

14. A **treatment species for administration to a mammalian recipient** as claimed in claim 13 wherein the donor mammalian species is a pig, rabbit or rat.

15. A **treatment species for administration to a mammalian recipient** as claimed in claim 14 wherein the donor mammalian species is a virus-free neonatal pig, rabbit or rat.

16. A **treatment species for administration to a mammalian recipient** as claimed in claim 1 wherein the cell population or cell culture is from a donor mammalian species which is the same species as the recipient.

17. A **treatment species for administration to a mammalian recipient** as claimed in claim 16 wherein the donor mammalian species is human.

18. A **treatment species for administration to a mammalian recipient** as claimed in claim 1 wherein the treatment species may comprise or include one or more choroid plexus cells.

19. A **treatment species for administration to a mammalian recipient** as claimed in claim 1 wherein the treatment species may comprise or include one or more choroid plexus cells encapsulated in a suitable encapsulation medium.

20. A **treatment species for administration to a mammalian recipient** as claimed in claim 19 wherein the encapsulation medium is an alginate.

21. A **treatment species for administration to a mammalian recipient** as claimed in claim 1 wherein the treatment species may comprise or include one or more naked choroid plexus cells.

22. A **treatment species for administration to a mammalian recipient** as claimed in claim 1 wherein the treatment species may comprise or include one or more choroid plexus cells contained within a confinement means.

23. A **treatment species for administration to a mammalian recipient** as claimed in claim 22 wherein the confinement means is factor permeable in vivo.

24. A **treatment species for administration to a mammalian recipient** as claimed in claim 1 wherein the treatment species may comprise or include one or more isolated choroid plexus cells.

25. A **treatment species for administration to a mammalian recipient** as claimed in claim 1 wherein the treatment species may comprise or include media harvested from choroid plexus cells (whether these be naked, isolated, cultured, modified or otherwise).

26. A **treatment species for administration to a mammalian recipient** as claimed in claim 1 wherein the treatment species may comprise or include one or more choroid plexus cells and/or the media harvested from one or more choroid plexus cells (whether these be naked, isolated, cultured, modified or otherwise), in a pump or implantable infusion device.

27. A **treatment species for administration to a mammalian recipient** as claimed in claim 1 wherein the treatment species may comprise or include one or more choroid plexus cells and/or the media harvested from one or more choroid plexus cells (whether these be naked, isolated, cultured, modified or otherwise), in a bio-erodable polymer.

28. A **treatment species for administration to a mammalian recipient** as claimed in claim 1 wherein the treatment species may comprise or include cerebrospinal fluid containing one or more choroid plexus cells and/or the secretion from one or more choroid plexus cells obtained from the recipient, or another mammalian species.

29. A **method of preparing a treatment species for administration to a recipient mammal** comprising or including the steps of:

a) obtaining one or more cells capable of producing one or more factors, from a donor species

b) reparing the treatment species.

30. A **method of preparing a treatment species for administration to a recipient mammal** as claimed in claim 29 wherein the one or more cells are choroid plexus cells.

31. A **method of preparing a treatment species for administration to a recipient mammal** as claimed in claim 29 wherein the method comprises or includes the steps:

1) obtaining one or more choroid plexus cells from a donor species;

2) culturing the one or more choroid plexus cells;

3) preparing the treatment species.

32. A **method of preparing a treatment species for administration to a recipient mammal** as claimed in claim 31 wherein step 1) of obtaining the one or more choroid plexus cells from the donor species comprises or includes obtaining the fresh tissue from the donor and dissociating the tissue mechanically and/or by enzymatic digestion.

33. A **method of preparing a treatment species for administration to a recipient mammal** as claimed in claim 31 wherein step 2) of culturing the one or more choroid plexus cells comprises or includes preparing the cells in such a way as to produce choroid plexus cell clusters of a regular size (preferably between 50-300 microns in diameter).

34. A **method of preparing a treatment species for administration to a recipient mammal** as claimed in claim 31 wherein the step 3) of preparing the treatment species may comprise or include one of the following:

- encapsulation of the cells, or media obtained therefrom in a suitable encapsulation medium;
- confinement of the cells, or media obtained therefrom in a suitable confinement means;
- housing of the cells, or media obtained therefrom in a pump or implantable infusion device;
- housing of the cells, or media obtained therefrom in a bioerodable polymer;

- addition of the cells or media obtained therefrom to a pharmaceutically acceptable diluent and/or excipient and/or carrier.

35. **A method of preparing a treatment species for administration to a recipient mammal** as claimed in claim 34 wherein the encapsulation medium is an alginate.

36. **A treatment species** prepared according to the method of claim 34.

37. **A method of administering a treatment species to a recipient** comprising or including:

- preparation of a treatment species as in claim 31,
- administering the treatment species to a targeted area of the recipient.

38. **A method of administering a treatment species to a recipient** as claimed in claim 37 wherein the administration of the treatment species to the recipient results in one or more of the following events:

- treatment of cells of the nervous system damaged by events such as injury, disease, trauma;
- protection against damage to cells of the nervous system arising from future events as injury, disease, trauma;
- prevention or minimisation of apoptotic nervous system cell death;
- regeneration of damaged cells of the nervous system;
- impeding or stopping cell death cascades resulting from events such as nervous cell injury, disease, trauma.

39. **A method of administering a treatment species to a recipient** as claimed in claim 37 wherein the cells are in the central nervous system.

40. **A method of administering a treatment species to a recipient** as claimed in claim 39 wherein the cells are in the brain.

41. **A method of administering a treatment species to a recipient** as claimed in claim 37 wherein the cells are in the peripheral nervous system.

42. **A method of administering a treatment species to a recipient** as claimed in claim 37 wherein the administration of the treatment species results in one or more of the following:

- treatment or prevention of a neurodegenerative disease;
- repair of damage caused by acute trauma to the brain;
- treatment of damage resulting from pre-birth asphyxia;
- treatment of damage resulting from neonatal ischemia (pre, during, post birth);
- treatment of infection related cell death (including from meningitis and encephalitis);
- treatment of damage resulting from pressure related cell death (such as resulting from head injury to the recipient);
- treatment of auto-immune disorders, including for example, demyelinating conditions (such as multiple sclerosis); rheumatoid arthritis, crohn's disease, ulcerative colitis;
- Treatment of sense loss due to apoptotic events, such as RP, diabetic retinopathy, macular degeneration, optic nerve damage;
- Treatment of inborn errors of metabolism that mostly affect the central nervous system.

43. **A method of administering a treatment species to a recipient** as claimed in claim 37 wherein the step of administering the treatment species to a targeted area of the recipient includes one or more of the following:

- administering the treatment species into the central nervous system;
- administering the treatment species to a region outside but adjacent or proximal the central nervous system;
- administering the treatment species directly into the region of the recipient which has suffered damage;
- administering the treatment species to a region outside but adjacent or proximal the region of the recipient which has suffered damage;

- administering the treatment species into the brain parenchyma;
- administering the treatment species into the recipient so as to selectively target apoptotic cells; more preferably this comprises administering the treatment species into the margin of the damaged region ;
- administering the treatment species into the recipient so as to selectively target necrotic cells; more preferably this comprises administering the treatment species into the central aspect of the damaged region;
- administering the treatment species into the ventricle;
- administering the treatment species via lumbar puncture;
- administering the treatment species into a CSF containing region.

44. **A method of administering a treatment species to a recipient** as claimed in claim 37 wherein the step of administering the treatment species to a targeted area of the recipient comprises or includes any administration so as to expose the targeted area to choroid plexus derived secretion.

45. **A method of administering a treatment species to a recipient** as claimed in claim 44 wherein the choroids plexus derived secretion includes or comprises choroids plexus derived factors.

46. **A method of administering a treatment species to a recipient** as claimed in claim 37 wherein the step of administering the treatment species to a targeted area of the recipient comprises or includes one or more of:

- administration resulting in substantially immediate delivery of the treatment species to a targeted area; or
- administration resulting in controlled delivery of the treatment species to the targeted area over a pre-selected time period.

47. **A method of administering a treatment species to a recipient** as claimed in claim 46 wherein the pre-selected time period is greater than five minutes.

48. **A method of administering a treatment species to a recipient** as claimed in claim 37 wherein the method includes one or more steps of:

- suppressing the immune response of the recipient, more preferably by administration of immunosuppressive agents or drugs ;
- cooling the recipient;
- Administering the cell preparation via a cannulated blood vessel.

49. A **method of preventing, treating and/or ameliorating a neurological injury, disease or imbalance**, comprising or including:

1) preparing an implant

2) implanting the implant in or around the central nervous system

wherein said implant results in, directly or indirectly, a beneficial effect on said neurological injury.

50. A **method of preventing, treating and/or ameliorating a neurological injury, disease or imbalance** as claimed in claim 49 wherein the implant consists of conditioned media.

51. A **method of preventing, treating and/or ameliorating a neurological injury, disease or imbalance** as claimed in claim 49 wherein the implant consists of living cells formed from the group of cells including choroid plexus cells, glial derived cells and neurons.

52. A **method of preventing, treating and/or ameliorating a neurological injury, disease or imbalance** as claimed in claim 49 wherein said living cells are formed from a homogeneous mix of cell populations.

53. A **method of preventing, treating and/or ameliorating a neurological injury, disease or imbalance** as claimed in claim 49 wherein the cells are encapsulated in a biocompatible medium.

54. A **method of preventing, treating and/or ameliorating a neurological injury, disease or imbalance** as claimed in claim 49 wherein the implant is implantable into a localised area in or around the central nervous system proximate to the neurological injury and/or into supporting structures of the central nervous system.

55. An **implant for implantation into the central nervous system and/or surrounding supporting structures of a mammalian recipient,**

wherein the said implant consists of conditioned media and/or living cells formed from a homogeneous mix of cell populations.

56. An **implant for implantation into the central nervous system and/or surrounding supporting structures of a mammalian recipient** as claimed in claim 55 wherein said implant consists of one or more living cells formed from a group of cells including choroid plexus cells, glial derived cells and neurons.

57. A **surgical method for treatment of a human** comprising or consisting the following steps:

1) accessing through the skull and dura mater

2) administering an implant as described previously into a cerebral fluid filled space.

58. A **surgical method for treatment of a human** as claimed in claim 57 wherein step 2 comprises or includes administering the implant directly into the brain parenchyma.

59. A **surgical method for treatment of a human** as claimed in claim 57 wherein step 2 comprises or includes administering the implant external to the brain parenchyma.

60. A **surgical method for treatment of a human** as claimed in claim 57 wherein the implant is located subdurally but still external to the brain parenchyma.

61. A **pharmaceutical composition for treatment or prevention of a disease or condition in a mammal** in need of treatment by therapeutic administration of an implant comprising:

1) one or more living cells capable of producing one or more factors,

2) at least one permeation-enhancement agent for transmucosal drug uptake.

62. A **pharmaceutical composition for treatment or prevention of a disease or condition in a mammal** as claimed in claim 61 wherein the one or more living cells include one or more choroid plexus cells.